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Natural Gas and Oil for the Northwest*

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Favorable geological structures throughout a large area in Alberta, coupled with a very high rate of exploration activity, support forecasts that new discoveries of oil and gas may be expected to continue at the high rate achieved during the past four years. Two companies, which propose to bring natural gas to the Pacific Northwest from Alberta, also propose to build oil lines. A third important concern, which has just recently entered the picture, is sponsored by the Bechtel Corporation of San Francisco. I will not predict which of these concerns will be successful in completing the oil-line project, but I am convinced, from discussions I have had in Washington, D. C., recently, that an oil line will be built and that it may well precede construction of a natural-gas line. Such a line may, in the beginning, transport only 70,000 barrels of crude oil per day, but will have an ultimate capacity of about 250,000 barrels per day.

In the opinion of many people today, Alberta does not have any greater surplus of oil than of gas to export. The reason I say that an oil line may precede a gas line is that the commercial value of the product in an oil line would be much greater than that of the product in a gas line of equal size. For instance, a throughput of 70,000 barrels of crude per day would have a value in Alberta of about $160,000 while a throughput of 200 million cubic feet of gas per day would have a value of $20,000.

I do not believe that an oil line, at least in the beginning, will add greatly to the economic advantage of the Pacific Northwest. Approximately half of the crude oil will replace California crude now being refined in Vancouver. The cost of the crude in the beginning will be very little lower than the present cost of California crude. This will be particularly true with respect to refineries located in either Seattle or Portland. But, as the throughput of the line increases, the value to the Pacific Northwest will increase.

The defense and military aspects of the line are its chief assets. Shipments of refined petroleum products to the Pacific Northwest in tankers from California are extremely vulnerable to disruption by submarine activities. The production of gasoline and high-octane aviation fuel in the area where it is needed would, of course, be an important contribution to the defense effort. A further important point is that it would also save California oil.

The construction of an oil pipeline cannot be considered as a satisfactory substitute for an adequate supply of natural gas for industrial and residential purposes, since transportation facilities would still be required to move the products from the refinery locations to consumers. What is required in the Pacific Northwest is an alternate fuel distributed below ground instead of by tankers and rail.

In terms of British Thermal Units (BTUs), by which we commonly measure the heating values of oil, gas, and coal, the natural-gas industry in the United States has grown to the point where it now supplies almost half as much useful heat to the country as petroleum. The Pacific Northwest is now the only large region in the United States without a supply of natural gas definitely scheduled.

Another significant fact is that proved and recoverable gas reserves in the United States were estimated, as of December 31, 1950, at 185.6 trillion cubic feet. That is a huge supply and new reserves are being proved year by year. The Alberta natural-gas reserves are now officially estimated to be about 4.5 trillion cubic feet or about 2.5 per cent of the presently estimated reserves in the United States.

One of the three pipeline companies which propose to bring Alberta natural gas to the Province of British Columbia and to Oregon and Washington also proposes to bring natural gas to this area from Texas, to augment a smaller volume it proposes to bring in from Alberta. Each of the three companies has good financial backing, and each is capable of carrying through its project as soon as an adequate supply of gas becomes available to it. In view of the critical importance of steel to the defense program, it is probable that opposition may develop to a line from Texas, which would require roughly twice as much steel as a line from Alberta. The manufactured-gas companies in the Pacific Northwest area are actively supporting the importation of natural gas, but none are financially associated with any pipeline company.

The Alberta Provincial Conservation Board, after extended hearings, recently determined that Alberta's presently established gas reserves are approximately equal to the amount of gas the board estimates will be necessary to assure supplying the present and future requirements of the province for a period of thirty years. The Provincial government has announced that it concurs fully in the board's conclusion that, as soon as additional reserves are established, it will be to the best interest of the people of Alberta to make the surplus gas available for sale elsewhere, within or outside of Canada.

Also significant is Premier Manning's recent statement that if, because of the international situation, it should develop that Alberta gas is needed urgently elsewhere for continental defense purposes, the Alberta government will give immediate consideration to an official request from the proper authorities for its export, since the people of

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Alberta are prepared to play their full part in any program necessary to the security and defense of North America. (As evidence of the Province's good intentions in this respect, I may say that the Alberta legislature has just approved the export of 10 billion cubic feet of natural gas a year for five years to the Montana Power Company for use by the Anaconda Copper Company.) Following the Premier's statement, the United State Munitions Board recently surveyed conditions in the Pacific Northwest and came to the conclusion that a supply of natural gas in this area is essential to the defense effort, and addressed a communication to that effect to Charles E. Wilson, defense mobilizer. Mr. Wilson is reported to have referred the problem to the Secretary of the Interior, who is also petroleum administrator for defense and in that capacity has jurisdiction over all defense matters pertaining to both petroleum and natural gas. Secretary Chapman's attention is being directed to authentic data and reasons showing that the importation of natural gas into the Pacific Northwest should be undertaken without delay. Because of the size and complexity of the oil and gas industries, a difficult task faces defense mobilization officials in controlling the allotment of steel so as to obtain its best use for the overall program. This, of course, will necessitate careful study of the needs here and elsewhere in the country.

What is the relation between natural gas for the Pacific Northwest and the requirements of national defense? Since we came successfully through two wars without that resource, why is it important now? The answer is obvious to us who live here and have observed our great growth in population and industrial development. Our experience shows that the defense effort will greatly increase industrial demands for all forms of energy.

The Pacific Northwest, including the Province of British Columbia, is the second fastest growing area in North America. In 1940, before World War II, the combined population of Oregon and Washington was 2,825,875. The unofficial figure is now 3,875,389—an increase of 38.8 per cent in Oregon and 36.1 per cent in Washington. From 1941 to 1949 the population increase in the Province of British Columbia was 41 per cent. Increased population and industrial expansion always provide new opportunities, but they also create serious problems in time of war.

Approximately one-half of the present national production of aluminum comes from reduction plants in the Pacific Northwest. Other regional industries essential to defense include atomic energy plants, calcium carbide, silicon carbide, ferro alloys, magesium, shipping, lumber and allied industries, and shipbuilding and repair. Electric power is, of course, the prime mover of them all. We also have an important naval base at Bremerton, where the largest naval vessels can be repaired. And we have many other industries essential to civilian life and to the public health and well-being.

The principal fuel used by the industries and people of this area is oil, since no anthracite coal is produced and t' bituminous-coal production is not large. Oregon and Washington alone, with only 2.5 per cent of the nation's population, used 5 per cent of the total national consumption of residual fuel oil and 5.3 per cent of the distillate oil in 1949. The Portland Gas & Coke Company itself uses for gas manufacturing more than one-fifth of the total amount of residual oil consumed in the state of Oregon.

At this time, practically all oil consumed in the Pacific Northwest must be brought in from California by tanker. This region was compelled to adjust itself to restricted deliveries during World War II, because of the voracious demands of the Navy and war industries, and because tanker deliveries were slowed down materially by the use of convoys after several tankers had been sunk by enemy submarines. The practice of convoying tankers had to be abandoned when it was found that the oil requirements of the region could not be supplied under such restrictions. It is clear that the whole economy of this area would be disrupted, and most of our defense production would come to a full stop, if the supply of fuel oil were cut off by interference with tanker shipments. It would be even more serious for the manufactured-gas industry in Portland and Seattle, where service to 150,000 customers could not restored for many days.

In an interview in Portland recently, Lt. Gen. Albert C. Wedemeyer, commanding general of the Sixth Army, pointed out that coastal states, especially the Northwest, are vulnerable to enemy attacks—which could take the form of direct destructive action by air, naval attacks, or sabotage on a large scale. He added there are many critical installations in Oregon, including communication centers, seaports, industrial areas, and large dams involving both water supply and power, all of which could make good targets for hostile attack.

I am sorry not to have the data for a comparison of 1940 and 1950 oil consumption in Oregon and Washington, but the figures would show a tremendous increase. In 1946 the total distillate and fuel oil consumed in these two states was 39,805,000 barrels; by 1949 the amount had grown to 42,446,000 barrels. The increase in distillate or diesel consumption has been even more significant, from 12,287,000 barrels in 1946 to 17,558,000 in 1949, an increase of 43 per cent. Distillate oil is a very critical product in wartime. These figures show how great is our dependency upon oil and upon the uncertainties of ocean shipments along a relatively unprotected coast.

According to market surveys made by the principal gas distributing companies in the Pacific Northwest, an adequate supply of natural gas would save the use of approximately 12,000,000 barrels of oil per year. To make possible such a saving of this valuable resource would be an outstanding contribution to our national security. Today petroleum people are planning an oil line from Texas to California; I believe the availability of natural gas in this region would go a long way toward eliminating occasion for such a line, particularly since a crude-oil pipe-

line is also being projected from Alberta to the Pacific Northwest.

It is recognized that a power shortage exists in this region which will not be relieved for several years, and m informed that a critical water year would mean burning several million barrels of oil in standby steam power plants, which would necessitate the use on the Pacific Coast of many more tankers than now operate in this area. Natural gas would solve this problem. For the first few years the pipeline would have a capacity in excess of immediate markets, and gas could be used for fuel in steam plants for at least a portion of the year. I can't tell you how many thousand kilowatts of electric power or million kilowatt hours of electric energy would be conserved by the availability of natural gas, but I know they would run into large figures. The prevailing low electric rates in the area are a constant temptation to customers to use electric energy for space heating, a demand which would be accelerated by limitations on the consumption of manufactured gas and eventually by restrictions on automatic heating by oil.

Natural gas would be complementary to the expansion of our electric power resources. There is no room for argument on this score. We have, in the Pacific Northwest, most of the natural resources that that industry needs. We have an abundance of water and will have, in due course, an adequate power supply. What we lack more than anything else is a supply of cheap BTUs. We suffer a distinct disadvantage in this respect in comparison with California. We must pay, in addition to the cost of oil in California, the tanker shipping charge to the Northwest, while most industries in California now use natural gas, which even cheaper than oil produced there. California, moreover, is augmenting its own supply of natural gas by obtaining additional supplies from Texas and Oklahoma.

I regret that space will not permit a detailed description of the needs for heat in various types of industries. Mr. Goldhammer, an economist of the Bonneville Power Administration, gave an excellent summary of this when, in discussing the need for natural gas, he said:

"Industry in general requires energy for heat and steam, for mechanical power in driving motors, and for electricity in eletrolytic and chemical processes. The highest use of each of these fuels in the plant will provide the greatest efficiency and also the largest employment and income. If we can use natural gas for thermal energy, we will be able to move more of the electric energy up a step on the technological ladder and use it in chemical processes. In this manner we will secure the highest possible use of our resources."

At the moment, we are most concerned with seeing that provisions are made to assure the continuity of our industrial operations, and particularly the plants that produce materials essential to national defense. When this emergency is over, and we again are able to offer power to all industries interested in coming here, natural gas will fill the gap in the supply of low-cost thermal units.

Where can we get the manpower to produce the materials so urgently needed for the mobilization program? How shall we train the men and women on the "home front" to produce the equipment and supplies needed? To help find the answers to these questions the current issue of *Business Information Sources* is devoted to sources of information on industrial training for industrial mobilization. References are to books, magazine articles, and special reports arranged under topics related to training today. They concern: the situation today as compared with 1940, sources of additional manpower, essentials of emergency training, training methods, conference training, role playing, apprentice training, audio-visual aids, training check lists, know how developed in World War II, tested training aids now available through various agencies, induction of the new employee, and morale builders.

Copies of this publication are available for a mailing and handling charge of 10 cents and may be obtained by writing to Miss Rose L. Vormelker, Head, Business Information Bureau, Cleveland Public Library, 325 Superior Avenue, Cleveland 14, Ohio.

According to a recent Treasury ruling, tax refunds, state or Federal, arising out of renegotiation of war contracts, are income in the year received.

Under a previous ruling, refunds generally had been treated as income when received, unless excepted by special provisions in the law. Refunds arising from renegotiation, however, had been excepted. These, the earlier ruling held, should be carried back to the year against which the renegotiation applied and tax liabilities for that year recomputed. But the courts held the exception incorrect and the Treasury has now accepted their findings.

Oil demand in the United States this year will probably range between 6.9 million and 7.1 million barrels daily, an increase of 6.5 per cent to 9.5 per cent over 1950. This prediction is made by H. S. M. Burns, president of Shell Oil Co. Looking further ahead, he forecast domestic demand of 8 million barrels a day by 1955 and 9 million to 9.5 million barrels daily by 1960 "provided reasonably prosperous conditions prevail."

The labor force in the United States during 1950 averaged 64.6 million as compared with 63.6 million in 1949, the Census Bureau reports. At the peak of World War II, in 1944, when 11 million men were in uniform, the labor force averaged 65.9 million. The term "labor force" means anyone actually at work or available for work.

Certificates of necessity were issued by the Defense Production Administration between January 25 and March 7, 1951 to 231 companies for 313 projects with an estimated cost of over $1,183 million. D.P.A. reports that the average individual tax write-off certification was 74 per cent. This brought to over $2,683 million the total cost of projects certified as necessary and eligible for faster write-off under the Defense Production Act through March 7.

Old-age and survivors insurance benefits were paid to nearly three million individuals in the sum of $749 million during the year ended June 30, 1950, according to the annual report of the Social Security Administration.

CURRENT BUSINESS TRENDS IN OREGON

Portland Department-Store Sales. The general lethargy in retail activity is apparent in the department-store sales in Portland. The figures below show percentage changes in dollar sales for different periods in 1951 compared with the same periods of 1950.

	Week Ending May 12, 1951	*Four Weeks Ending May 12, 1951*	*Calendar Year to May 12, 1951*
Portland	+ 4	+ 1	+14
Los Angeles	+ 2	+ 2	+10
San Diego	+16	+ 9	+14
Oakland	+10	+ 4	+12
San Francisco	+10	+ 3	+11
Seattle	+ 2	+ 7	+19
Spokane	+15	+ 5	+17
United States	+ 3	+ 4	+12

Lumber. Both production and shipments of lumber have benefitted by the improvement in the freight-car supply. This has been accompanied by a softening of prices for some dimensions. The April Douglas-fir statistics are given below, along with similar figures for other months for purposes of comparison. (All figures in thousands of feet, board measure.)

	Apr. 1951	*Mar. 1951*	*Apr. 1950*
Average weekly production	237,287	205,453	223,839
Average weekly orders	232,450	225,015	253,882
Average weekly shipments	240,837	228,652	225,898
Unfilled orders, end of month	910,660	945,604	910,337
Gross stocks, end of month	657,336	672,127	817,913

The export market for Northwest lumber is higher than in 1949 and 1950. During the first 17 weeks of 1951, 193,216 bd. ft. were sold abroad. In the same period of 1950 export sales were but 57,666 bd. ft. and in 1949, 89,077.

There has been a general reduction of home building over the United States. The building-permit figures shown elsewhere in this page show the extent of this movement in Oregon.

Employment. The seasonal upswing in employment has resulted in a rapid dimunition of unemployment. Early in May 1951 the rate of insured unemployment was 2.1 per cent, the lowest since last f'' and well below the average for recent summers. Only 6,246 pers. were receiving compensation as against 13,668 in April and 15,683 in the early part of May 1950. Coos Bay and Tillamook led the state in reducing their unemployment rate during April. Less than 1 per cent of the workers in those areas were unemployed, whereas Bend, Astoria, and Lakeview were at the top with unemployment exceeding 4 per cent.

It is estimated by the Oregon State Unemployment Compensation Commission that nonagriculture employment in April 1951 was in excess of 433,000, compared with 413,500 in the same month in 1948 and 1950. Lumber employment was in excess of 80,000, well below the 93,700 peak of last summer. Gains over a year ago were recorded in trade, transportation, utilities, and government.

Portland Food Prices. Portland average retail food prices on March 15, 1951 were 1.2 per cent higher than on February 15. With only a few items cheaper, the general level of food prices advanced to an all-time high of 250.3.

Multnomah County Real-Estate Transactions. During April 1951, there were 1,077 sales of real estate amounting to $8,770,663 in Multnomah County. Of these, 753 were residences, the total value of which was $6,270,244; 285 were vacant properties, $526,779; and 39 were business properties, $1,973,640. April activity was lower than March or April 1950.

	Apr. 1951	*Mar. 1951*	*Apr. 1950*
Number of sales	1,077	1,291	1,158
Total value of sales	$8,770,663	$9,909,717	$7,291,462
Number of mortgages	1,173	1,175	1,095
Total amount loaned	$7,805,214	$8,352,367	$7,674,685

BANK DEBITS

Bank debits represent the dollar value of the checks drawn against individual deposits. Payment for approximately 90 per cent of all goods, property, and services is by check. Bank debits are regarded as indicators of the general trend of business, though their value for this purpose may be impaired by substantial changes in the level prices. The Bureau of Business Research collects bank debits from all banks and branches monthly. On occasion, the totals for the same month in different issues of *Review* are not directly comparable because of necessary adjustments in basic data.

Marketing Districts	*Number of Banks Reporting*	*Debits Mar. 1951*	*Debits Mar. 1950*	*Debits Feb. 1951*	*Mar. 1951 Compared with Mar. 1950*	*Mar. 1951 Compared with Feb. 1951*
Oregon	110	$1,207,985,588	$930,143,884	$1,053,545,351	+29.87%	+14.66%
Portland (Portland, Hillsboro, Oregon City, etc.)	32	763,687,537	577,968,732	658,351,020	+32.13	+16.00
Lower Willamette Valley (Salem, McMinnville, etc.)	14	91,489,357	80,612,904	78,124,746	+13.49	+17.11
Upper Willamette Valley (Albany, Corvallis, Eugene, etc.)	16	117,678,575	89,463,900	101,088,303	+31.54	+16.41
North Oregon Coast (Astoria, Tillamook, etc.)	4	18,344,240	14,214,292	16,540,793	+29.05	+10.90
Douglas, Coos Bay	7	38,790,755	29,771,700	32,627,187	+30.29	+18.89
Southern Oregon (Ashland, Medford, Grants Pass)	6	47,747,339	36,079,369	41,935,012	+32.34	+13.86
Upper Columbia River (The Dalles, Hood River, etc.)	7	24,611,432	14,735,962	19,698,042	+67.01	+24.94
Pendleton area	5	22,182,312	18,383,478	22,068,545	+20.66	+00.51
Central Oregon (Bend, Prineville, Redmond)	5	20,872,818	18,533,031	23,394,270	+12.62	−10.78
Klamath Falls, Lakeview area	5	27,480,361	21,675,323	24,002,852	+26.64	+14.36
Baker, La Grande area	6	19,968,999	15,944,012	21,083,729	+25.26	−05.29
Burns, Ontario, Nyssa	4	15,141,863	12,761,181	14,630,852	+18.65	+03.49

BUILDING PERMITS

Building permits give an indication of building operations planned rather than actual construction under way. Care must be taken, in interpreting these data, to allow for the lag which may elapse between the issuance of the permit and the beginning of actual construction. The data have been collected by the Bureau of Business Research.

	New Residential Mar. 1951	*New Non-residential Mar. 1951*	*Additions, Alterations & Repairs Mar. 1951*	*Totals Mar. 1951*	*Totals Feb. 1951*	*Totals Mar. 1950*
Astoria	$ 56,183	$ ———	$ 6,695	$ 62,878	$ 42,166	$ 36,732
Bend	6,200	3,966	16,745	26,911	11,250	69,795
Coos Bay	63,048	62,500	3,450	128,998	48,060	98,290
Corvallis	102,550	400	4,790	107,740	121,135	61,091
Eugene	489,800	202,040	144,143	835,983	300,910	1,050,960
Grants Pass	90,915	33,865	14,530	139,310	268,969	78,853
La Grande	4,500	300	5,214	10,014	3,225	47,699
Oregon City	17,000	5,600	400	23,000	27,295	5,750
Pendleton	21,296	1,300	9,900	32,496	315,923	78,627
Portland	1,925,585	397,170	800,205	3,122,960	3,048,805	3,943,565
Roseburg	87,150	4,500	32,795	124,445	46,825	464,894
Salem	309,786	34,175	50,486	394,447	306,289	842,714
Springfield	74,910	5,200	10,200	90,310	82,156	98,745
The Dalles	92,800	14,900	6,990	114,690	115,160	146,735
18 other communities	235,000	577,258	66,110	898,368	387,734	1,008,652
Totals	$3,596,723	$1,343,174	$1,172,653	$6,112,550	$5,125,902	$8,033,10